

ABSTRACT

The present invention provides a method of preparing directly a desired nano-structure of oxide without electrolyzing the target oxide, a nano-structure having structural resistance and various useful uses of the nano-structure.

Into a solution containing a fluoride complex ion comprising metal element of the target oxide in which the metal is at least one selected from the group consisting of transition metal elements, group IA elements, group IIA elements, group IIIB elements, group IVB elements, group VB elements and group VIB elements, a template having nano-structure made from oxide is immersed, and the reaction condition is adjusted to substitute oxide of the template with the target oxide.